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APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/059,410	01/31/2002	Mitsuru Kato	217918US0	6795

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

SELLERS, ROBERT E

ART UNIT

PAPER NUMBER

1712

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/059,410

Applicant(s)

KATO ET AL.

Examiner

Robert Sellers

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 3, 4, 11 and 19-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5-7 and 12-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6 and 7. 6) ☐ Other:

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1, 2, 5-7 and 12-18, drawn to an aqueous dispersion of a polyurethane resin, classified in class 524, subclass 591.
- II. Claims 3, 4 and 11, drawn to an aqueous dispersion of a polyurethane resin and a curing agent, classified in class 524, subclass 559.
- III. Claims 8-10, drawn to an aqueous dispersion of a polyurethane and a plasticizing ethylidenedibromide-4,4'-isopropylidene bis(2,6-dibromophenol) condensate, classified in class 524, subclass 611.
- IV. Claims 19 and 20, drawn to an aqueous dispersion of a polyurethane wherein the preparation of the polyurethane involves a tertiary amine, classified in class 525, subclass 453.
- V. Claims 21 and 22, drawn to a method of manufacturing a separable fastener, classified in class 427, subclass 385.5.
- VI. Claim 23, drawn to a separable fastener, classified in class 24, subclass 445.

The inventions are distinct, each from the other because:

Inventions I and (II or III or IV) are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful as a coating composition and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants.

Inventions II, III and IV are distinct because the curing agent of Invention II, the plasticizer of Invention III and the tertiary amine of Invention IV are chemically and functionally diverse components which involve materially different reactive functional groups.

Inventions (I, II, III or IV) and VI are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful as a molding formulation and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants.

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Inventions (I, II, III or IV) and V are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the product as claimed can be used in a materially different process of using that product such as a method of coating a metallic object.

Inventions V and VI are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the process as claimed can be used to make another and materially different product such as a separable fastener with a polyester or polyimide back coating.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

This application contains claims directed to the following patentably distinct species of the claimed invention:

- 1) The macromolecular polyols of claim 13.
- 2) The chain-extending agents described on page 5, line 25 to page 6, line 1 of the specification.
- 3) The aqueous dispersions of a polyurethane resin with and without the aqueous dispersion of an acrylic resin.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1-23 are generic.

A reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141.

If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

During a telephone conversation with Frederick D. Vastine on May 16, 2003, a provisional election was made with traverse to prosecute the invention of Group I, polytetramethylene glycol as the macromolecular polyol, piperazine as the chain-extending agent, and the aqueous dispersion of a polyurethane resin without the aqueous dispersion of an acrylic resin, claims 1, 2, 5-7 and 12-18. Affirmation of this election must be made by applicant in replying to this Office action. Claims 3, 4, 8-11 and 19-23 are withdrawn from further consideration under 37 CFR 1.142(b) as being drawn to non-elected inventions.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 5-7 and 12-18 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Adachi et al.

Adachi et al. shows a polyurethane emulsion wherein a film prepared therefrom has a modulus of elasticity at 90°C of as low as 2.0×10^7 (col. 10, lines 20-25) wherein the polyurethane is obtained by reacting a high molecular weight polyol (col. 11, lines 21-23) including 2,2-dimethylbutyric acid (col. 14, line 7) as an active hydrogen and hydrophilic groups-containing compound (col. 13, lines 45-47 and 60-63), an organic diisocyanate and a chain extender.

Although the claimed inherent viscosity is not recited, the equivalent aqueous polyurethane dispersion of Adachi et al. derived from equivalent reactants as those claimed inherently possesses the claimed inherent viscosity. The burden of proof is shifted to applicants to show the lack of inherent viscosity within the claimed parameters for the prior art polyurethane emulsion (*In re Fitzgerald*, 205 USPQ 594, CCPA 1980).

Claims 1, 2, 5-7 and 12-18 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kato et al.

Kato et al. sets forth a polyurethane emulsion (col. 11, lines 31-34) produced by reacting a macromolecular polyol, an organic diisocyanate, a chain extender and 2,2-bis(hydroxymethyl)butyric acid (col. 13, lines 48-48 and 64-65; and col. 14, lines 4-10).

Although the claimed inherent viscosity and elastic moduli are not recited, the equivalent aqueous polyurethane dispersion of Kato et al. derived from equivalent reactants as those claimed inherently possesses the claimed inherent viscosity and elastic moduli. The burden of proof is shifted to applicants to show the lack of inherent viscosity and elastic moduli within the claimed parameters for the prior art polyurethane emulsion (*In re Fitzgerald*, 205 USPQ 594, CCPA 1980).

Claims 1, 2, 5-7 and 12-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fujii et al. or Japanese Patent Nos. 10-226719 or 10-265539 or 10-273587 or 11-171956 or the Pige Huagong by Zeng et al. or Japanese Patent No. 10-298251.

Each of the references espouse aqueous polyurethane dispersions obtained by polymerizing a polyester, polyether, polycaprolactone or high molecular weight polyol, an organic diisocyanate, a chain extender and 2,2-dimethylolbutanoic acid.

Although the claimed inherent viscosity and elastic moduli are not recited, the equivalent aqueous polyurethane dispersions of the references derived from equivalent reactants as those claimed inherently possesses the claimed inherent viscosity and elastic moduli. The burden of proof is shifted to applicants to show the lack of inherent viscosity and elastic moduli within the claimed parameters for the prior art polyurethane dispersions (*In re Fitzgerald*, 205 USPQ 594, CCPA 1980).

Claims 1, 2, 5-7 and 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent No. 62-112504 in view of Adachi et al. and Kato et al.

Japanese Patent No. 62-112504 is directed to a back coating for a separable fastener (page 4, last paragraph) which is the identical utility as that of the instant application (claim 21) wherein the back coating is prepared from an aqueous polyurethane dispersion produced via the reaction of the elected species of polytetramethylene glycol, an organic diisocyanate such as the preferred species of isophorone diisocyanate (page 5, lines 14-16) which is exemplified in the instant specification (page 19, Table 1, "IPDI") and 2,2-dimethylolbutanoic acid (page 6, line 5).

The claimed chain extending agent is not recited. Adachi et al. (col. 11, lines 21-23 and col. 13, lines 1-20) and Kato et al. (col. 11, lines 30-33 and col. 13, lines 25-47) teach the chain extension of polyurethane emulsions with chain extenders such as the elected species of pipeazine to impregnate fibrous substrates.

It would have been obvious to polymerize the polyurethane of the Japanese patent in the presence of the chain extender of Adachi et al. and Kato et al. in order to increase the molecular weight of the polyurethane.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mitsuji et al. (col. 4, lines 14-30 and col. 5, line 31) is directed to an aqueous coating composition comprising an acrylic resin emulsion, a polyurethane emulsion derived from the reaction of a polyether or polyester diol, an organic diisocyanate, low molecular weight polyhydroxyl compound, water as a chain extender and dimethylolbutyric acid, and a crosslinking agent. The patent is cited for its incorporation of a crosslinking agent. The polyurethane emulsion wherein chain extension occurs with water is similar to Fujii et al. applied hereinabove.

(703) 308-2399 (Fax no. (703) 872-9310)
Monday to Friday from 9:30 to 6:00 EST



Robert Sellers
Primary Examiner
Art Unit 1712